

**In the Claims:**

Please amend claims 18-65 as follows:

- Sub*  
*P1*
18. (Amended) A polynucleotide encoding a fusion protein, the fusion protein comprising,
- (i) an immunogenic peptide, a native protein fragment or a particle, and,
- (ii) at least one pan DR binding peptide selected from the formula  $R_1-R_2-R_3-R_4-R_5$ , wherein:
- $R_1$  is an amino acid followed by alanine or lysine;
- $R_2$  is selected from the group consisting of tyrosine, or phenylalanine;
- $R_3$  is 3 or 4 amino acids, wherein each amino acid is independently selected from the group consisting of alanine, isoleucine, serine, glutamic acid and valine;
- $R_4$  is selected from the group consisting of threonine-leucine-lysine, lysine-threonine, or tryptophan-threonine-leucine-lysine (SEQ ID NO:16); and,
- $R_5$  consists of 2 to 4 amino acids followed by an amino acid wherein each of the 2 to 4 amino acids is independently selected from the group consisting of alanine, serine, and valine (SEQ ID NOS:17-22, representing the pan DR binding peptide where  $R_4$  in the pan DR binding peptide consists of tryptophan-threonine-leucine-lysine (SEQ ID NO:16)).
- A5*
19. (Amended) The polynucleotide of claim 18, wherein the polynucleotide is comprised by an expression vector.
20. (Amended) The polynucleotide of claim 18, wherein the fusion protein comprises multiple pan DR peptides.

21. (Amended) The polynucleotide of claim 18, wherein the fusion protein comprises a homopolymer of pan DR peptides.

22. (Amended) The polynucleotide of claim 18, wherein the fusion protein comprises a heteropolymer of pan DR peptides.

BS- Sub C1 23. (Amended) The polynucleotide of claim 18, wherein the immunogenic peptide, native protein fragment or particle comprises a heteropolymer with repeating units.

24. (Amended) The polynucleotide of claim 18, wherein the immunogenic peptide, native protein fragment or particle comprises a T helper peptide.

25. (Amended) The polynucleotide of claim 18, wherein the immunogenic peptide, native protein fragment or particle comprises an antibody-inducing peptide.

26. (Amended) The polynucleotide of claim 18, wherein the immunogenic peptide, native protein fragment or particle comprises a CTL-inducing peptide.

27. (Amended) A method of synthesizing a fusion protein comprising at least one pan DR peptide and an immunogenic peptide, native protein fragment or particle, the method comprising,

(a) selecting a vector comprising a polynucleotide encoding a fusion protein, the fusion protein comprising,

(i) an immunogenic peptide, a native protein fragment or a particle, and,

(ii) at least one pan DR binding peptide selected from the formula  $R_1-R_2-R_3-R_4-R_5$ , wherein:

$R_1$  is an amino acid followed by alanine or lysine;

$R_2$  is selected from the group consisting of tyrosine, or phenylalanine;

$R_3$  is 3 or 4 amino acids, wherein each amino acid is independently selected from the group consisting of alanine, isoleucine, serine, glutamic acid and valine;

$R_4$  is selected from the group consisting of threonine-leucine-lysine, lysine-threonine, or tryptophan-threonine-leucine-lysine (SEQ ID NO:16); and,

$R_5$  consists of 2 to 4 amino acids followed by an amino acid wherein each of the 2 to 4 amino acids is independently selected from the group consisting of alanine, serine, and valine (SEQ ID NOS:17-22, representing the pan DR binding peptide where  $R_4$  in the pan DR binding peptide consists of tryptophan-threonine-leucine-lysine (SEQ ID NO:16));

(b) transforming a host cell with the vector; and,

(c) expressing the fusion protein in the host cell.

28. (Amended) The method of claim 27, wherein the fusion protein comprises multiple pan DR peptides.

29. (Amended) The method of claim 27, wherein the fusion protein comprises a homopolymer of pan DR peptides.

30. (Amended) The method of claim 27, wherein the fusion protein comprises a heteropolymer of pan DR peptides.

31. (Amended) The method of claim 27, wherein the immunogenic peptide, native protein fragment or particle comprises a heteropolymer with repeating units.

32. (Amended) The method of claim 27, wherein the immunogenic peptide, native protein fragment or particle comprises a T helper peptide.

33. (Amended) The method of claim 27, wherein the immunogenic peptide, native protein fragment or particle comprises an antibody-inducing peptide.

34. (Amended) The method of claim 27, wherein the immunogenic peptide, native protein fragment or particle comprises a CTL-inducing peptide.

35. (Amended) A fusion protein comprising,

(i) an immunogenic peptide, a native protein fragment or a particle, and,

(ii) at least one pan DR binding peptide selected from the formula  $R_1$ - $R_2$ - $R_3$ - $R_4$ - $R_5$ , wherein:

$R_1$  is an amino acid followed by alanine or lysine;

$R_2$  is selected from the group consisting of tyrosine, or phenylalanine;

$R_3$  is 3 or 4 amino acids, wherein each amino acid is independently selected from the group consisting of alanine, isoleucine, serine, glutamic acid and valine;

$R_4$  is selected from the group consisting of threonine-leucine-lysine, lysine-threonine, or tryptophan-threonine-leucine-lysine (SEQ ID NO:16); and,

$R_5$  consists of 2 to 4 amino acids followed by an amino acid wherein each of the 2 to 4 amino acids is independently selected from the group consisting of alanine, serine, and valine (SEQ ID NOS:17-22, representing the pan DR binding peptide where  $R_4$  in the pan DR binding peptide consists of tryptophan-threonine-leucine-lysine (SEQ ID NO:16)).

36. (Amended) The fusion protein of claim 35, wherein the fusion protein comprises multiple pan DR peptides.

37. (Amended) The fusion protein of claim 35, wherein the fusion protein comprises a homopolymer of pan DR peptides.

38. (Amended) The fusion protein of claim 35, wherein the fusion protein comprises a heteropolymer of pan DR peptides.

39. (Amended) The fusion protein of claim 35, wherein the immunogenic peptide, native protein fragment or particle comprises a heteropolymer with repeating units.

40. (Amended) The fusion protein of claim 35, wherein the immunogenic peptide, native protein fragment or particle comprises a T helper peptide.

41. (Amended) The fusion protein of claim 35, wherein the immunogenic peptide, native protein fragment or particle comprises an antibody-inducing peptide.

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42. (Amended) The fusion protein of claim 35, wherein the immunogenic peptide, native protein fragment or particle comprises a CTL-inducing peptide.

43. (Amended) A method of inducing an immune response in a human, the method comprising introducing of a composition of claim 18 into a human.

44. (Amended) The method of claim 43, wherein the polynucleotide is comprised by an expression vector.

45. (Amended) The method of claim 43, wherein the fusion protein comprises multiple pan DR peptides.

46. (Amended) The method of claim 43, wherein the fusion protein comprises a homopolymer of pan DR peptides.

47. (Amended) The method of claim 43, wherein the fusion protein comprises a heteropolymer of pan DR peptides.

48. (Amended) The method of claim 43, wherein the immunogenic peptide, native protein fragment or particle comprises a heteropolymer with repeating units.

49. (Amended) The method of claim 43, wherein the immunogenic peptide, native protein fragment or particle comprises a T helper peptide.

50. (Amended) The method of claim 43, wherein the immunogenic peptide, native protein fragment or particle comprises an antibody-inducing peptide.

51. (Amended) The method of claim 43, wherein the immunogenic peptide, native protein fragment or particle comprises a CTL-inducing peptide.

52. (Amended) A method of inducing an immune response in a human, the method comprising introducing of a composition of claim 35 into a human.

53. (Amended) The method of claim 52, wherein the fusion protein comprises multiple pan DR peptides.

54. (Amended) The method of claim 52, wherein the fusion protein comprises a homopolymer of pan DR peptides.

55. (Amended) The method of claim 52, wherein the fusion protein comprises a heteropolymer of pan DR peptides.

56. (Amended) The method of claim 52, wherein the native protein fragment or particle comprises a heteropolymer with repeating units.

57. (Amended) The method of claim 52, wherein the immunogenic peptide, native protein fragment or particle comprises a T helper peptide.

58. (Amended) The method of claim 52, wherein the immunogenic peptide, native protein fragment or particle comprises an antibody-inducing peptide.

59. (Amended) The method of claim 52, wherein the immunogenic peptide, native protein fragment or particle comprises a CTL-inducing peptide.

60. (Amended) A composition for eliciting an immune response to a T-cell and/or antibody-inducing peptide, the composition comprising multiple pan DR peptides linked to one or more T-cell and/or antibody-inducing peptide,

wherein the pan DR binding peptides are selected from the formula  $R_1-R_2-R_3-R_4-R_5$ , wherein:

$R_1$  is an amino acid followed by alanine or lysine;

$R_2$  is selected from the group consisting of tyrosine or phenylalanine;

$R_3$  is 3 or 4 amino acids, wherein each amino acid is independently selected from the group consisting of alanine, isoleucine, serine, glutamic acid and valine;

$R_4$  is selected from the group consisting of threonine-leucine-lysine, lysine-threonine, or tryptophan-threonine-leucine-lysine (SEQ ID NO:16); and,

$R_5$  consists of 2 to 4 amino acids followed by an amino acid wherein each of the 2 to 4 amino acids is independently selected from the group consisting of alanine, serine, and valine (SEQ ID NOS:17-22, representing the pan DR binding peptide where  $R_4$  in the pan DR binding peptide consists of tryptophan-threonine-leucine-lysine (SEQ ID NO:16)).

61. (Amended) The composition of claim 60, wherein the composition comprises multiple pan DR peptides.